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AUTHOR Smith, Michael D.; Brunette, Diane
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ABSTRACT

Sound-meaning correspondences produced by an infant were studied under conditions of early rampant homonymy (i.e., production by a very young child of a small set of noncontrastive surface forms or phonetic sequences to refer to objects/events that on the basis of adult standards require the production of numerous contrasting surface forms). The speech of a male twin (H), who was 1;4 years at the outset of the initial three months of evaluation, was assessed. Data were drawn from a 10-month study of the infant, his fraternal twin, and their mother. The data were analyzed in the framework of word-based phonology and phone class analysis. Phone classes for H were restricted to voiced bilabial (/b/ and /m/), alveolar (/d/), and velar (/g/ and /h-phi/) sound segments. H's productions were restricted to a point where high levels of homonymy would be expected. Three referents (e.g., cookie, book, and apple), which at first were produced with distinctive and resolvable surface forms, coalesced and took on a common surface form. H's tolerance for homonymy, therefore, could not be tied to the absence of resolvability. Attempts were made to analyze a representative selection of H's homonymous forms on the basis of both phonetic substance and referential substance. It is suggested that a charge of relative incompetence at the phonetic level does not adequately explain homonymy. Analyses that link homonymy at least in part to the phenomenon of overextension demonstrate that a young child with few productive surface contrasts is capable of controlling more of the ambient language than is reflected in his first linguistic performance. (SW)

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Michael D. Smith

Diane Brunette

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EARLY RAMPANT HOMONYMY:

PROBLEM OR STRATEGY?

Michael D. Smith
Communication Disorders
Western Carolina University

Diane Brunette
Speech Pathology
Texas Tech University

Introduction

This study of homonymy grew out of a series of attempts to isolate factors that have the potential to mediate a restricted phonetic substance and a comparatively unrestricted referential field. We desired thus to make sense of homonymy. Specifically, efforts were made to analyze sound-meaning correspondences under conditions of early rampant homonymy (to borrow a phrase from Jakobson, 1941) wherein a very young child produces a small set of noncontrastive surface forms or phonetic sequences to refer to objects/events that on the basis of adult standards require the production of numerous contrasting surface forms. As will be elaborated on shortly, in this study we were faced with levels of homonymy much higher than those typically reported in the literature.

Problem or Strategy?

In the past and into the present, homonymy has been looked upon as being more of a problem than anything else. For example, witness Priestly's (1980) recent summation to the effect that when dealing with the ways in which a very young child learns to make phonological distinctions and, consequently, render surface forms more intelligible, we at the same time must deal with the ways in which the problem of homonymy is overcome. Prompting such an interpretation of homonymy were the earlier statements of Drachman (1973) and Ingram (1975), with the former claiming that the whole aim of a child's linguistic being is to resolve homonymy and, next, the latter claiming that with haste and deliberateness a child will avoid homonymy even to the point of devising unique or unmotivated processes in the service of maintaining surface contrasts.

To keep matters in perspective, it cannot be overlooked that notions of the above sort reflect almost exclusively the results of phonetically based analyses of homonymy. Judging from the methods of analysis employed by Waterson (1971) and Ingram (1981), if sense is to be made of homonymy the emphasis ought to be

placed on the role played by the shared phonetic properties of words -- seemingly irrespective of their referential or semantic properties. As observed by Ervin-Tripp (1966), a dominant assumption is that in most instances homonymy results from a significant lag in phonological development where a child's ability to produce appropriate surface contrasts and, consequently, resolve potential ambiguity lags behind his conceptual development and capacity for lexicalization.

Breaking ranks with those who opt for phonetically based analyses of homonymy, the research of Locke (1979) suggests that it is misleading to cast homonymy as a problem. His approach is one where instances of homonymy can be analyzed on the basis of intent (embedded in acts of communication and paired with contexts that are quite specific in regard to available points of reference). As a direct result of orienting on intent as opposed to the phonetic product of intent a young child often might succeed in stretching his rather limited lexicon in a fashion that compensates for potential ambiguity occurring in the form of homonymy. That is, the potentially negative effects of homonymy may be cancelled out given the prominence accorded intent. Contrary to the strict view that homonymy is a problem, it is not the case that an ability to maintain surface contrasts on the part of a young child will necessarily win out over an orientation on intent.

Going one step beyond Locke (1979), Vihman (1981) proposed that homonymy resembles more a strategy than anything else. Accordingly then Vihman (1981:241) formulated what she called a homonym strategy along the following lines:

> Instead of avoiding homonyms, some children seem to collect them; instead of resorting to unnatural or apparently unmotivated processes in order to maintain a surface contrast, they may resort to such processes in order to merge two or more adult words in a single sound pattern. In short, instead of demonstrating a desire to achieve clarity in their speech they demonstrate a desire to achieve efficiency in performance. The child's goal in such cases almost seems to be the production of a maximum number of lexical items with a minimum repertoire of sound shapes.

An assumption which is critical to the homonym strategy is that instances of homonymy generally result from the merger of words or phonetic sequences that were at first differentiated. In support of this assumption, Vihman (1981) cited various instances of mergers that grew out of a loss of previously existing contrasts. For example, her Estonian speaking subject first produced pah ("yucky") as /pæh/ with detectable laryngeal tension. A month later he produced pall ("ball") as /pæ/ and shortly thereafter added laryngeal tension to create /pæh/, a homonym with päh.

Examples such as this one and much of what the homonym strategy captures in essence builds upon Menn's (1976:176) prior observation that a limited output repertoire in the form of homonomy has the potential to assist a young child in getting "...the real-time production process streamlined, automatic, in less need of attention." In spite of the fact that, like Priestly (1980), Ingram (1975), and Drachman (1973), Vihman (1981) and Menn (1976) chose to center on phonetically based analyses of homonymy, the general notion of a homonym strategy does not block the less referentially based analyses of homonomy. In fact, the implication is that because of the possibility that homonymy renders the production process less in need of attention, a young child may well be free to invest considerably more time in deciphering the referential substance of the ambient language.

Amplifying what was said just a few moments ago, claims to the effect that homonymy is a problem and namely one tied to articulatory incompetence are again found to be suspect. In particular, due to instances of homonymy characterized by the prior existence of a surface contrast and, hence, resolvability, arguments that a child will maintain a surface contrast if at all possible are suspect.

A Tolerance for Homonymy

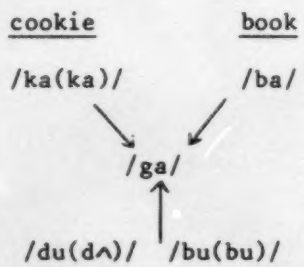
Data are reported below which complement those discussed in Locke (1978) and Vihman (1981). What the data specifically point to is that in addition to focusing on phonetic substance, a very young child with a great tolerance for homonymy may also focus on referential substance as part of an overall effort to maximize the use of a limited lexicon.

The data were drawn from a ten month long language development study involving a single set of male fraternal twins who were 1;4 at the outset. Here we will be primarily concerned with those data based on one of the twins (H) and covering only the initial three months of the investigation. During this period of essentially single word production leading to the first fifty words, data were collected twice weekly with each session lasting approximately one hour. The setting consisted of a playroom in a mliddle class home with the mother and twin mate present. The observer at all times was free to interact with the twins. The fact that the observer was a close relative and very familiar to the twins facilitated interaction and made for a setting conducive to high levels of homonymous production (Locke, 1979).

The data were analyzed in the framework of word-based phonology and phone class analysis (Ferguson and Farewell, 1975). Phone classes for H were restricted to voiced bilabial (/b/ and /m/), alveolar (/d/), and velar (/g/ and /h-ø/) sound segments.

Additionally, as this collection of phone classes might lead one to expect, H generally avoided the production of adult words with initial voiceless segments. Typical outputs were of an open syllable format, with occasional reduplication occurring. Vowel production and stress assignment varied considerably. The consequence was that H's productions were restricted to a point where high levels of homonymy would be expected. In line with just such an expection, during his most vocal sessions H's homonymous productions reached levels of seventy and eighty percent. By contrast, H's twin mate produced forms ranging across a comparatlively unrestricted set of phone classes (e.g., /b/, /m~ø/, /d~t/, /l/, /č~š~ž/, /g~k/, /h~ø/, and /ŋ~ø/) and exhibited little tolerance for homonymy.

As part of an effort to make sense of H's homonymous forms, we first considered the issue of resolvability. Evidence of mergers similar to those cited by Vihman (1981) abounded in H's data. A common example involved cookie which was first produced as /ka(ka)/. A short time later a variation was introduced with the result that cookie was produced either as /ka(ka)/ or /ga/. Next, book which was previously produced as /ba/ for a brief time took on the variant /ga/, thus forming a homonymous relationship with cookie. Making the situation more interesting, apple which was early on produced as /du(dʌ)/ or /bu(bu)/ later took on the variant /ga/. Thus, as illustrated below, three referents which at first were produced with distinctive and, hence, resolvable surface forms coalesced and took on a common surface form. The point then is that H's tolerance for homonymy cannot be tied to the absence of resolvability.



Moving on, attempts were next made to analyze a representative selection of H's homonymous forms on the basis of phonetic substance. Of the total number of selected forms (50), thirty-four percent fit predictions based on phonetic similarities. We were as a result left with a considerable amount of data of which we could not make sense. An additional ten percent was found to be analyzable on the basis of something approaching referential substance. That is, it was found that various referents whose word forms blocked analyses on the basis of phonetic similarities were labeled as /da/ accompanied with a pointing gesture. For example,

it was not uncommon to find H producing /da/ while pointing to a mixture of objects such as sock, pants, flower, egg, refrigerator, and shoe. What we apparently have here then is little more than the use of a deictic form.

Up to this point we have made sense of forty-four percent of the selected homonymous forms. In an effort to analyze the remaining fifty-six percent or twenty-eight items, the focus of analysis was shifted to an exclusive consideration of referential substance. Specifically, the remaining homonymous forms were analyzed in light of lexical overextension. Following the procedures outlined by Rescorla (1980), efforts were made to tie individual instances of homonymy to one of three categories of overextension: categorical overinclusions, analogical overextensions, and predicate statements. According to Rescorla (1980:325-326) categorical overinclusions involve "...the use of a word to label a referent close to the word's standard referent in some clear higher-order taxonomic category of adult usage", analogical overextensions involve the use of a word to comment on "...a similarity or an analogy between the word's standard referent and the labeled referent, but these referents are not related to one another in any clear categorical sense, according to conventional taxonomy", and predicate statements involve the use of a word "...to convey some information about the relationship between an immediate referent and some absent person, object, property or state, rather than labelling the referent itself."

It was found that much of what H did in terms of overextension oriented on the perceptual and functional similarities existing between objects that were present and with which he directly interacted. His overextensions thus were more likely to be of an analogical sort than any other. Based on overextension analysis, eighteen of the examples in question best fit the analogical mold, with the remaining ten examples split between the categorical and predicate statement molds.

A representative example of the results of overextension involved another of H's various uses of /ga/, a form with a curious history. At an early point H used /ga/ to refer to something both edible and round (e.g., cookie). Soon thereafter these two features, edible and round, separated out such that /ga/ was used to refer to edible objects (e.g., toast) or to round objects (e.g., marbles). Finally, the feature edible emerged as the dominant one of the two, with /ga/ subsequently being used to refer only to edible objects (irrespective of shape).

Examples that fit such a pattern are instructive as they highlight the interaction of phonetic and referential substance, with preferential treatment given to the latter. Admittedly, as Rescorla (1981) has recently emphasized, due to the fact that in the real world the factors which affect a child's labelling practices are inherently confounded, there are significant risks

involved in any attempt to align a child's usage with one particular referent feature rather than another. It must not, however, be overlooked that much the same might be said of phonetically based analyses of an emerging lexicon. For example, given the less than guarded range of possibilities allowed for under Ingram's (1981) proposed model of phonological analylsis, it seems that a focus on phonetic substance may in the end stretch things no less far than a focus on referential substance. Nonetheless, all risks aside, the advantage to what has been illustrated above is that cases of homonomy like that of H can at least be tentatively made sense of under procedures of analysis that cover more than just phonetic substance.

Conclusion

What ever legitimate criticisms there are of the tack taken in this study, the fact remains that even under conditions of early rampant homonomy ample signs of resolvability are found. The result is that a charge of relative incompetence at the phonetic level serves too little as an explanation of homonymy. Opting then to view homonomy as something less than a problem, procedures of analysis that link it at least in part to the phenomenon of overextension demonstrate that a young child with few productive surface contrasts is capable of controlling more of the ambient language than is reflected in his first linguistic performances.

As a final note, through continued inspection of H's homonymous productions it is our hope that points might be isolated at which phonetically based homonymy links up with referentially based homonymy and, finally, referentially based homonymy links up with the sorts of overextension that are characteristically traced in the literature on early word acquisition (e.g., Rescorla, 1980, 1981).

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